UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/768,975	01/23/2001	Stephen P. Williams	Q01-1000-US1 / 11198.52	2314

26861 7590 11/20/2008

DAVID K. LUCENTE; SEAGATE TECHNOLOGY LLC
INTELLECTUAL PROPERTY DEPT. - COL2LGL
389 DISC DRIVE
LONGMONT, CO 80503

EXAMINER	
BLOUIN, MARK S	

ART UNIT	PAPER NUMBER
2627	

MAIL DATE	DELIVERY MODE
11/20/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte STEPHEN P. WILLIAMS, ALBERT HARTMAN,
and TOM TACKLIND

Appeal 2008-3137
Application 09/768,975
Technology Center 2600

Decided: November 19, 2008

Before ROBERT E. NAPPI, SCOTT R. BOALICK, and JOHN A. JEFFERY, *Administrative Patent Judges*.

NAPPI, *Administrative Patent Judge.*

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 6(b) of the final rejection of claims 6, 9-11, 13, and 22-75.

We affirm-in-part the Examiner's rejection of these claims.

INVENTION

The invention is directed towards a head stack assembly for a disk drive wherein fine positioners move a portion of the base plate relative to the actuator arm. Claim 6 is representative of the invention and reproduced below:

6. A head stack assembly for a disk drive, the disk drive including a storage disk, the head stack assembly comprising:

an actuator arm;

a coarse positioner that moves the actuator arm relative to the storage disk;

a transducer assembly including a load beam, a flexure secured to the load beam, and a data transducer secured to the flexure;

a separately formed base plate securing the transducer assembly to the actuator arm, the base plate including (i) one or more edges, (ii) a pair of flex sections that cantilever away from at least one of the edges, the flex sections allowing the base plate to flex, and (iii) a pair of spaced apart positioner cavities that are positioned between the flex sections; and

a fine positioner secured to the base plate, the fine positioner being positioned in the positioner cavities, the fine positioner moving a portion of the base plate relative to the actuator arm.

REFERENCES

Khan	US 6,134,087	Oct. 17, 2000 (filed Dec. 8, 1998)
Ohwe	US 6,594,116 B1	Jul. 15, 2003 (filed Apr. 11, 2000)

REJECTIONS AT ISSUE

Claims 6, 9-11, 13, and 22-74 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Khan.

Claim 75 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Khan in view of Ohwe.

ISSUES

Rejection of claims 6, 9-11, 13, and 22-74 under 35 U.S.C. § 102(e)

Appellants argue on pages 11-21 of the Brief[1] that the Examiner's rejection of claims 6, 9-11, 13, and 22-74 under 35 U.S.C. § 102(e) as being anticipated by Khan is in error. Appellants argue that the reference "does not teach or suggest a separately formed base plate that secures the load beam structure to the actuator arm, with the base plate including one or more flex sections." Brief 12. Appellants also argue that the reference does not teach or suggest securing a fine positioner to such separately formed base plate. Brief 12.

Appellants additionally argue that the dependent claims contain features that are separately patentable and are not taught by the Khan reference. Appellants argue that Khan does not teach: positioning two flex sections between the two piezoelectric motors; placement of the piezoelectric crystals under compression; contact between the piezoelectric crystals and the base plate occurring only at the ends of the piezoelectric crystals; or a substantially V-shaped flex section. Brief 15-21.

Thus, with respect to claims 6, 9-11, 13, and 22-74, Appellants' contentions present us with the issue of whether the Examiner erred in finding that Kahn teaches a separately formed base plate which has a fine positioner secured to it. Further, with respect to the dependent claims

[1] Throughout the opinion, we refer to the Brief received Mar. 8, 2007.

Appellants' contentions present us with several issues directed to whether the Examiner erred in finding that: a) Kahn teaches positioning two flex sections between the piezoelectric motors, b) Kahn teaches placement of the piezoelectric crystals under compression, c) Kahn teaches that only the ends of the piezoelectric motors contact the base pate, and d) Kahn teaches a substantially V-shaped flex section.

Rejection of claim 75 under 35 U.S.C. § 103(a)

Appellants argue on pages 21-23 of the Brief that the Examiner's rejection of claim 75 under 35 U.S.C. § 103(a) as being unpatentable over Kahn in view of Ohwe is in error. Appellants argue that the references do not teach or suggest use of a base plate or the thickness of a base plate. Brief 22. Appellants additionally argue that neither reference teaches nor suggests "having a base plate that is at least approximately three times the thickness of the load beam." Brief 22. Finally, Appellants argue that there is no motivation to combine the device taught by Ohwe with Khan because "the prior art does not clearly suggest the desirability of the resultant combination." Brief 23.

Thus, with respect to claim 75, Appellants' contentions present us with three issues. First, did the Examiner err in finding that the combination of Kahn and Ohwe teach the use of a base plate? Second, did the Examiner err in finding that the combination of Kahn and Ohwe teach the claimed thickness of the base plate? And third, did the Examiner err in determining that one would be motivated to combine the teachings of the references?

FINDINGS OF FACT

1. The "[l]oad beam has a base portion, fixed on the mount plate boss, a spring portion and a beam portion carrying a slider." Kahn, col. 4, l. 67-col. 5, ll. 1-2.
2. The Examiner has found, and Appellants have not contested, that a skilled artisan would know that a structure that takes on a different shape apart from the other structures is separately formed. Answer[2] 10.
3. The piezoelectric motors are secured to the separately formed base plate portion. Kahn, col. 5, ll. 2-6, and Figs. 1-4.
4. One spring section is placed between the two piezoelectric motors. Kahn, col. 5, ll. 58-67, and Fig. 3.
5. "[T]he spring portion comprises left and right spring elements, each spring element having an arcuate section, the arcuate sections tending to flatten to a great radius curve when the spring portion element is elongated by action of the microactuator and to curl to a lesser radius curve when the spring portion element is contracted by action of the microactuator and individually for each spring element." Kahn, col. 2, ll. 17-29.
6. "The piezoelectric elements are bonded to the load beam base portion and to the beam portion with suitable bonding adhesive such as silver filled epoxy resin, in a manner to bridge the and cross the two openings in the spring portion, forming two bridges." Kahn, col. 4, ll. 1-5.

[2] Throughout the opinion, we refer to the Answer mailed Feb. 20, 2008.

7. The piezoelectric crystals are attached to the base plate only at the ends of the piezoelectric crystals. Kahn, Figs. 1-4.
8. "Substantial" is defined as "Considerable in importance, value, degree, amount or extent." *American Heritage Dictionary of the English Language* (4th ed. 2000).
9. "A displacement of the beam portion by the elongation of the piezoelectric crystals will extend or contract the spring elements by changing their radius of curvature to a larger value (flatter) for an elongation of the crystals, or smaller (more curled) for a contraction of the crystals." Kahn, col. 5, ll. 40-45.

PRINCIPLES OF LAW

Office personnel must rely on Appellants' disclosure to properly determine the meaning of the terms used in the claims. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 980 (Fed. Cir. 1995) (en banc). "[I]nterpreting what is *meant* by a word *in* a claim 'is not to be confused with adding an extraneous limitation appearing in the specification, which is improper.'" *In re Cruciferous Sprout Litigation,* 301 F.3d 1343, 1348, (emphasis in original) (citing *Intervet Am., Inc. v. Kee-Vet Labs., Inc.*, 887 F.2d 1050, 1053 (Fed. Cir. 1989)).

37 C.F.R. § 41.37 (c)(1)(vii) states:

> For each ground of rejection applying to two or more claims, the claims may be argued separately or as a group. When multiple claims subject to the same ground of rejection are argued as a group by appellant, the Board may select a single claim from the group of claims that are argued together to decide the appeal with respect to the group of claims as to the ground of rejection on the basis of the selected claim alone.

> Notwithstanding any other provision of this paragraph, the failure of appellant to separately argue claims which appellant has grouped together shall constitute a waiver of any argument that the Board must consider the patentability of any grouped claim separately…. A statement which merely points out what a claim recites will not be considered an argument for separate patentability of the claim.

ANALYSIS

Rejection under 35 U.S.C. § 102(e) as anticipated by Khan

Claims 6, 9-11, and 13

Appellants' arguments have not persuaded us that the Examiner erred in finding that Kahn teaches a separately formed base plate. Appellants' arguments consist of a restatement of the claim and the benefits to having a separately formed base plate. Brief 12 and 13. There is no indication in the Specification or the Brief that addresses a specific definition for the phrase "separately formed." Furthermore, the Examiner has made a specific finding that "separately formed" is interpreted to mean "a structure given a particular shape apart from other structures." Fact 2. We concur with the Examiner's claim interpretation. Kahn teaches a load beam that has a base portion, a spring portion and a beam portion. Fact 1. Each of these portions/structures takes on a different shape apart from the others and is therefore "separately formed." Fact 3. In this manner, the base plate portion referenced in the Appellants' claim would include the base portion and the spring portion, as indicated in Figure 1 below.

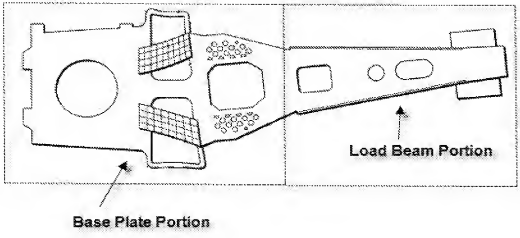

Figure 1 is a marked up copy of Figure 2 of Kahn and depicts a disk drive suspension where the separately formed base plate portion and the separately formed beam portion are indicated.

As such, Appellants' arguments have not persuaded us that the Examiner erred in finding that Kahn teaches a separately formed base plate.

Appellants' arguments have not persuaded us that the Examiner erred in finding that Kahn teaches securing a fine positioner to such a separately formed base plate. Brief 12. As discussed above and as indicated in Figure 1, we have found that the Kahn reference contains the separately formed base plate. Kahn additionally teaches securing a fine positioner (e.g. one or more piezoelectric crystals) to such separately formed base plate. Fact 3. Accordingly, Appellants' arguments have not persuaded us of error in the Examiner's rejection of claim 6 or of claims 9 through 11, and 13 which are grouped with claim 6.

Claims 22-26, 30-31, 33, and 35-36

Appellants' statements directed to claims 22-26, 30-31, 33, and 35-36 are simply a restatement of the claims and not a separate argument. Such a statement that merely recites the claim is not a separate argument under 37 C.F.R. § 41.37 (c)(1)(vii). Accordingly, Appellants have grouped these claims with claims 6, 9-11, and 13, and we sustain the Examiner's rejection of these claims for the reasons discussed with respect to claim 6.

Claim 27

Appellants have persuaded us that the Examiner erred in finding that Kahn teaches positioning two flex sections between the two piezoelectric motors. Appellants argue that the pair of flex sections is not positioned between the pair of piezoelectric motors. Brief 15. The Examiner does not address this argument and has made no findings that demonstrate that Kahn teaches this limitation. We do not find that Kahn teaches a pair of flex sections positioned between the piezoelectric motors. Kahn only teaches a single flex section positioned between the piezoelectric motors. Fact 4. Therefore, Appellants' arguments have persuaded us of error in the Examiner's rejection of claim 27.

Claims 28-29

Appellants' statements have not persuaded us that the Examiner erred in finding that Kahn teaches the placement of the piezoelectric crystals under compression. Appellants' argument simply states that the reference does not teach the piezoelectric crystals under compression as claimed. Brief 15. Such a statement that merely recites the claim is not a separate argument under under 37 C.F.R. § 41.37 (c)(1)(vii). Accordingly, Appellants have

grouped these claims with claims 6, 9-11, and 13. Further, even if we were to consider this to be a separate argument, the Examiner has made a finding that the Kahn teaches that the contraction or expansion motion would inherently secure the piezoelectric motor under compression. Answer 9. Appellants have not presented any evidence or argument to show that this finding by the Examiner is in error. Accordingly, we concur with the Examiner and find that as the spring element curls to a lesser radius curve the microactuator (i.e. the piezoelectric crystal) is contracted (i.e. placed into compression). Fact 5. Thus, Appellants' arguments have not persuaded us of error in the Examiner's rejection of claims 28-29.

Claims 32

Appellants' arguments have not persuaded us that the Examiner erred in finding that Kahn teaches contact between the piezoelectric crystals and the base plate occurring only at the ends of the piezoelectric crystals. As shown in Figure 1 (above) and Figures 1-3 of Kahn, the piezoelectric elements are bonded in a manner to bridge and cross the two openings in the spring portion, forming two bridges. Fact 6. Therefore, the piezoelectric crystals are attached only at the ends. Fact 7. Accordingly, Appellants' arguments have not persuaded us of error in the Examiner's rejection of claims 32.

Claim 34

Appellants' statements have not persuaded us that the Examiner erred in finding that Kahn teaches the base plate having a flex section that is substantially V-shaped. Appellants simply restate the claim limitation and state that it is not taught. Brief 16. Such a statement that merely recites the claim is not a separate argument under 37 C.F.R. § 41.37 (c)(1)(vii).

Accordingly, Appellants have grouped these claims with claims 6, 9-11, and 13. Further, even if we were to consider this to be a separate argument, the Examiner, in rejecting claim 34, refers to the flex section (26) indicated in Figures 1-5 of Kahn. Answer 9. Appellants have not presented any evidence or argument to show that this finding by the Examiner is in error. The dictionary defines "substantial" as "considerable in importance, value, degree, amount or extent." Fact 8. Therefore, an object is substantially "V" shaped if it is "V" shaped to a considerable extent or degree. The Examiner finds that the flex section (26) is substantially "V" shaped. Answer 9. Since a "U" or "C" shape is, to a considerable extent or degree, a "V" shape (depending on the rotation of the letter), we concur with the Examiner. In addition, as the "U" or "C" shaped flex section is extended or contracted, their radius of curvature is changed to a larger value (flatter) for an elongation of the crystals, or smaller (more curled) for a contraction of the crystals, thereby increasing the substantially "V" shape of the crystal. Fact 9. Thus, Appellants' arguments have not persuaded us of error in the Examiner's rejection of claim 34.

Claims 37, 46, 48, and 49

Appellants' arguments directed to claims 37, 46, 48, and 49 present the same issue as discussed with respect to claims 28-29. Representative claim 37 is similar to claim 28 in that the piezoelectric motor is secured under compression. As discussed above with respect to claim 28, we find that as the spring element curls to a lesser radius the piezoelectric crystal is under compression. Thus, Appellants' arguments have not persuaded us of error in the Examiner's rejection of claims 37, 46, 48, and 49.

Claim 38

Appellants' statements have not persuaded us that the Examiner erred in finding that Kahn teaches that the piezoelectric crystals are under compression. Appellants simply restate the claim limitation and state that it is not taught. Brief 16. Such a statement that merely recites the claim is not a separate argument under 37 C.F.R. § 41.37 (c)(1)(vii). Accordingly, Appellants have grouped these claims with claims 6, 9-11, and 13. Further, even if we were to consider this to be a separate argument, Appellants' statements directed to claim 38 presents the same issue as discussed with respect to claims 28-29. Claim 38 is similar to claim 28 in that the piezoelectric motor is secured under compression. As discussed above with respect to claim 28, we find that as the spring element curls to a lesser radius the piezoelectric crystal is under compression. Thus, Appellants' arguments have not persuaded us of error in the Examiner's rejection of claim 38.

Claims 39-45

Appellants' arguments directed to claims 39-45 present the same issue as discussed with respect to claims 32 and 51. Representative claim 39 is similar to claim 32 in that it recites that contact between the piezoelectric crystals and the base plate occurs only at the ends of the piezoelectric crystals. As discussed above with respect to claim 32, we find this to be taught by Kahn. Thus, Appellants' arguments have not persuaded us of error in the Examiner's rejection of claims 39-45.

Claim 47

Appellants' arguments directed to claim 47 present the same issue as discussed with respect to claim 34. Claim 47 is similar to claim 34 in that it recites a base plate having a substantially "V" shaped flex section. As

discussed above with respect to claim 34, we find that the flex sections in Kahn are substantially "V" shaped. Thus, Appellants' arguments have not persuaded us of error in the Examiner's rejection of claim 47.

Claims 50 and 53-57

Appellants' statements directed to claims 50 and 53-57 are simply a restatement of the claims and not a separate argument. Such a statement that merely recites the claim is not a separate argument under 37 C.F.R. § 41.37 (c)(1)(vii). Accordingly, Appellants have grouped these claims with claims 6, 9-11, and 13. Further, even if we were to consider this to be a separate argument, the Examiner has made specific findings regarding these claims. Answer 7-9. Appellants have not presented evidence or argument which shows these findings to be in error. Thus, Appellants' arguments have not persuaded us of error in the Examiner's rejection of claims 50 and 53-57.

Claim 51

Appellants' arguments directed to claim 51 present the same issue as discussed with respect to claim 32. Claim 51 is similar to claim 32 in that it recites how the piezoelectric motors are attached. As discussed above with respect to claim 32, we find that the piezoelectric motors are attached only at the ends. Fact 7. Accordingly, Appellants' arguments have not persuaded us of error in the Examiner's rejection of claim 51.

Claim 52

Appellants' arguments directed to claim 52 present the same issue as discussed with respect to claims 28-29. Claim 52 is similar to claims 28-29 in that it recites that the fine positioner is secured to the base plate under compression. As discussed above with respect to claims 28-29, we find that

the Kahn reference does teach this limitation. Thus, Appellants' arguments have not persuaded us of error in the Examiner's rejection of claim 52.

Claim 58

Appellants' arguments directed to claim 58 present the same issue as discussed with respect to claim 34. Claim 58 is similar to claim 34 in that it recites that the flex section is substantially "V" shaped. As discussed above with respect to claim 58, we find that the Kahn reference does teach this limitation. Thus, Appellants' arguments have not persuaded us of error in the Examiner's rejection of claim 58.

Claims 59-63

Appellants' statements directed to claims 59-63 are simply a restatement of the claims and not a separate argument. Such a statement that merely recites the claim is not a separate argument under 37 C.F.R. § 41.37 (c)(1)(vii). Furthermore, the Examiner has made specific findings regarding these claims, as addressed above, and the Appellants have not shown these findings to be in error. Thus, Appellants' arguments have not persuaded us of error in the Examiner's rejection of claims 59-63.

Claim 64

Appellants' arguments directed to claim 64 present the same issue as discussed with respect to claim 27. Claim 64 is similar to claim 27 in that it recites a pair of flex sections positioned between the pair of piezoelectric motors. As discussed above with respect to claim 27, we find that the Kahn reference does not teach this limitation. Thus, Appellants' arguments have persuaded us of error in the Examiner's rejection of claim 64.

Claims 65-66

Appellants' statements directed to claims 65-66 present the same issues as discussed with respect to claims 28-29. Claims 65-66 are similar to claims 28-29 in that they recite that the fine positioner is secured to the base plate under compression. As discussed above with respect to claims 28-29, we find that the Kahn reference does teach this limitation. Thus, Appellants' arguments have not persuaded us of error in the Examiner's rejection of claims 65-66.

Claims 67-71 and 74

Appellants' statements directed to claims 67-71 and 74 are simply a restatement of the claims and not a separate argument. Such a statement that merely recites the claim is not a separate argument under 37 C.F.R. § 41.37 (c)(1)(vii). Furthermore, the Examiner has made specific findings regarding these claims, as addressed above, and the Appellants have not shown these findings to be in error. Thus, Appellants' arguments have not persuaded us of error in the Examiner's rejection of claims 67-71 and 74.

Claim 72

Appellants' arguments directed to claim 72 present the same issue as discussed with respect to claim 27. Claim 72 is similar to claim 27 in that it recites a pair of flex sections positioned between the pair of piezoelectric motors. As discussed above with respect to claim 27, we find that the Kahn reference does not teach this limitation. Thus, Appellants' arguments have persuaded us of error in the Examiner's rejection of claim 72.

Claim 73

Appellants' arguments directed to claim 73 present the same issue as discussed with respect to claims 28-29. Claim 73 is similar to claims 28-29

in that it recites that the fine positioner is secured to the base plate under compression. As discussed above with respect to claims 28-29, we find that the Kahn reference does teach this limitation. Thus, Appellants' arguments have not persuaded us of error in the Examiner's rejection of claim 73.

Rejection under 35 U.S.C. § 103(a) over Khan in view of Ohwe

Claim 75

Appellants' arguments have persuaded us that the Examiner erred in finding that Kahn in view of Ohwe teaches a base plate that is at least approximately three times the thickness of the load beam. Brief 22. Appellants agree that the Ohwe reference teaches a load beam in the range of 0.02 mm to 0.08 mm. Brief 21-22. However, Appellants argue that the Kahn reference does not teach the thickness of the base plate. Brief 22. In response, Examiner argues that the Kahn reference does teach this limitation. Answer 12. We agree with Appellants. There is no indication in the Kahn reference to indicate the thickness of the base plate. Therefore, Appellants' arguments have persuaded us of error in the Examiner's rejection of claim 75.

SUMMARY

In summary, we sustain the Examiner's rejection of claims 6, 9-11, 13, 22-26, 28-29, 30-63, 65-71, 73, and 74 under 35 U.S.C. § 102(e) as being anticipated by Kahn. We will not sustain the Examiner's rejection of claims 27, 64, and 72 under 35 U.S.C. § 102(e) as being anticipated by Kahn. We will not sustain the Examiner's rejection of claim 75 under 35 U.S.C. § 103(a) as being unpatentable over Kahn in view of Ohwe. The decision of the Examiner is therefore affirmed-in-part.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED-IN-PART

eld

DAVID K. LUCENTE; SEAGATE TECHNOLOGY LLC
INTELLECTUAL PROPERTY DEPT. - COL2LGL
389 DISC DRIVE
LONGMONT, CO 80503

Notice of References Cited	Application/Control No. 09/768,975	Applicant(s)/Patent Under Reexamination Appeal No. 2008-3137	
	Examiner	Art Unit 2627	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-			
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	*American Heritage Dictionary of the English Language*, (4th ed. 2000), http://www.bartleby.com/61/27/S0852700.html. *Last visited November 6, 2008.*
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

CONTENTS · INDEX · ILLUSTRATIONS · BIBLIOGRAPHIC RECORD

The American Heritage® Dictionary of the English Language: Fourth Edition. 2000.

substantial

SYLLABICATION: sub·stan·tial

PRONUNCIATION: səb-stăn′shəl

ADJECTIVE: 1. Of, relating to, or having substance; material. 2. True or real; not imaginary. 3. Solidly built; strong. 4. Ample; sustaining: *a substantial breakfast.* 5. Considerable in importance, value, degree, amount, or extent: *won by a substantial margin.* 6. Possessing wealth or property; well-to-do.

NOUN: 1. An essential. Often used in the plural. 2. A solid thing. Often used in the plural.

ETYMOLOGY: Middle English *substancial*, from Old French *substantiel*, from Latin *substantiālis*, from *substantia*, substance. See substance.

OTHER FORMS: sub·stan′ti·al′i·ty (-shē-ăl′ī-tē) , sub·stan′tial·ness (-shəl-nĭs) —NOUN
sub·stan′tial·ly —ADVERB

CONTENTS · INDEX · ILLUSTRATIONS · BIBLIOGRAPHIC RECORD

< substantia gelatinosa substantia nigra >